economic S4W Lifelong Economic Wellbeing for Women

GENDER PAY GAP (GPG) IS A STATISTIC AND BEHAVES LIKE A STATISTIC

A mathematical explanation of the GPG measurement problem but based on **fractions**

$$\frac{\text{earnings of the population recorded in the numerator}}{\text{numbers in the labour force and the denominator}}$$

Increasing labour force participation of women will increase the denominator and most could be part time women in low paid areas in health, aged care and hospitality jobs so the numerator will not increase earnings to the level necessary the start to narrow the Gender Pay Gap measure.

Example #1

Start = 2/3 —- a fraction less than one.

Add five to the numerator and the denominator.

Result = 7/8 — this fraction is closer to one than is 2/3: on the number line —–

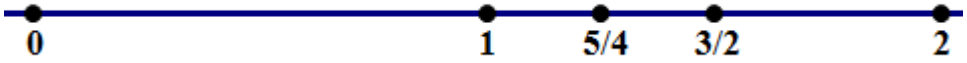
Since 1 is bigger than 2/3, when the resultant fraction moved closer to 1, it got bigger than 2/3. Therefore, we know 2/3 < 7/8

Example #2

Start = 3/2 —- a fraction greater than one.

Add two to the numerator and the denominator.

Result = 5/4 — this fraction is closer to 1 than is 3/2: on the number line —–



Since 1 is less than 3/2, when the result fraction moved closer to 1, it got smaller than 3/2. Therefore, we know 3/2 > 5/4

Example #3

Start = 2/7

Add 3 to the numerator and 5 to the denominator.

Resultant fraction = 5/12— this fraction is closer to 3/5 than is 2/7 —-

On the number line —–

Because 3/5 is bigger than 2/7, adding 3 to the numerator and 5 to the denominator has the net effect of producing a fraction that is bigger: 2/7 < 5/12

CONCLUSION

The gender wage gap is a measure of what women are paid relative to men. It is commonly calculated by dividing women's earnings by men's earnings, and this ratio is often expressed as a percent, or in dollar terms. This tells us how much a woman is paid for each dollar paid to a man.

There are at least 14 different measures of the Gender Pay Gap. Currently the Australian Government uses Average (mean) Weekly Earnings of Full-time Workers. Internationally the gender pay ratio is more often measured for year-round, full-time workers earnings and compares the annual wages (OR hourly earnings of wage and salaried workers) OR the median rather than the mean ie ("typical") man with that of the median ("typical") woman; measured this way, the current gender pay ratio is 0.796, or, expressed as a percent, it is 79.6 percent (U.S. Census Bureau 2016). In other words, for every dollar a man makes, a woman makes about 80 cents.

A RECOMMENDATION

To adopt this convention of using median earnings of wage and salary workers rather than (or as well as) average/mean earnings of wage and salary workers because averages can be skewed by a handful of people making much more or much less than the rest of workers in a sample. Also, consider examining both median and mean wages on an hourly basis rather than a weekly basis. This **hourly** measure constitutes a limited "adjustment" in research methodology in that it accounts for the fact that men work more hours on average during the year, and that more women work part time. This limited adjustment allows us to compare women's and men's wages without assuming that women, who still shoulder a disproportionate amount of responsibilities at home, would be able or willing to work as many hours as their male counterparts.

RESOURCES

How To Analyze Data Using the Average – Better Explained
https://betterexplained.com/articles/how-to-analyze-data-using-the-average/

What is the gender pay gap and is it real?: The complete guide to how women are paid less than men and why it can't be explained away
http://www.epi.org/publication/what-is-the-gender-pay-gap-and-is-it-real/